UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
JOHN F. KENNEDY FEDERAL BUILDING
BOSTON, MASSACHUSETTS 02203-0001

October 17, 1997

Mr. Philip Otis
Northern Division - NAVFAC
10 Industrial Highway
Code 1811/PO - Mail Stop 82
Lester, PA 19113-2090

Re: Revised and Additional Attachments for Addendum to the Sites 03 and 09 Phase III Work Plan, Offshore Geotechnical Sampling and Confirmation Study at Site 09-Final Revision 2, at the former Naval Construction Battalion Center (NCBC), Davisville, RI

Dear Mr. Otis:

Pursuant to § 7.6 of the NCBC Federal Facility Agreement (FFA), the Environmental Protection Agency (EPA) has reviewed the above referenced document. Please find our comments enclosed.

A primary goal of this revised document is to elaborate on recent additions to the work plan concerning various environmental actions to be taken. The original work plan was focussed entirely towards geotechnical objectives and did not involve any environmental work. The environmental activities (i.e., chemical sampling, etc.) outlined herein evolved and were added to the program in response to EPA comments dated June 10, 1997 and August 14, 1997 prior to initiation of the field program as well as in response to real-time observations made during the early phases of the field program. These suggestions offered by EPA were forwarded to the Navy in a timely manner in order to maximize the benefit to overall site 09 program given the considerable expense and effort involved in mobilizing a drilling barge.

The Navy should be commended for enabling rapid changes to be made to the field program so as to incorporate environmental as well as geotechnical data objectives. However, it is clear that the geotechnical objectives continue to be the Navy's top priority. In this context, it is incumbent on the Navy to provide additional clarification concerning the anticipated use of environmental data collected during the geotechnical program. Without this overarching context, it is not possible for EPA to fully assess the adequacy of the current effort towards future environmental objectives such as developing an LTMP. It should be stated up-front that EPA fully expects a future focussed environmental program to support development of an LTMP which the Navy has committed, in the ROD issued on September 29, 1997, to do during the design phase. In this context, any program which did not seize the current field program as a vehicle to gather environmental data would have missed an important opportunity to streamline future environmental sampling needed to support the LTMP. On the other hand, it should be obvious to all parties that the environmental objectives and methods currently being applied have been

heavily limited due to the overriding programmatic and schedule considerations driven by the geotechnical objectives.

At this time, in the absence of the Navy's anticipated strategy for generating the data necessary to develop the LTMP, it is difficult for the EPA to engage the Navy in a productive discussion concerning the most advantageous revisions to work in progress.

The Navy needs to clarify the future direction and data objectives of any environmental work, including that intended to support development of an LTMP. EPA had hoped that the 15% - Design Analysis Report would provided the overall work plan for the remedy at this site as required by the FFA §17.6, including the above mentioned long term monitoring plan design work plan. It did not fulfill the requirement. As per the FFA, a work-plan which outlines the specific environmental objectives and corresponding methodologies is required for regulatory review, comment.

The work plan should be agreed upon prior to the initiation of additional environmental activities, such as those planned to support LTMP development during the design phase, in order to accelerate the design construct process so that this area can be put into productive re-use by the ToNK. In the absence of this information, EPA's comments, which are attached, should be considered preliminary.

EPA New England looks forward to working with the Navy and RIDEM toward development of this sampling plan and the long term monitoring plan for this site. If you have any questions about this letter please call me at (617) 573-5736.

Sincerely,

Christine A.P. Williams, RPM
Federal Facilities Superfund Section

Enclosure

cc: Richard Gottlieb, RIDEM
Walter Davis, CSO
Tim Prior, USF&WS
Ken Finkelstein, NOAA
Bill Brandon, EPA
Yoo-Jean Choi, EPA
Howard Cohen, RIEDC
Marilyn Cohen, ToNK
Eileen Curry, Dynamac
Jim Shultz, EA Science & Eng.

EPA Comments on the Revised and Additional Attachments for Addendum to the Site 03 and 09 Phase III Work Plan, Offshore Geotechnical Sampling and Confirmation Study at Site 09 (NCBC), 13 October 1997, Final, Revision 2.

General Comment:

1. A primary goal of this revised document is to elaborate on recent additions to the work plan concerning various environmental actions to be taken. The original work plan was focussed entirely towards geotechnical objectives and did not involve any environmental work. The environmental activities (i.e., chemical sampling, etc.) outlined herein evolved and were added to the program in response to EPA comments dated June 10, 1997 and August 14, 1997 prior to initiation of the field program as well as in response to real-time observations made during the early phases of the field program. These suggestions offered by EPA were forwarded to the Navy in order to maximize the benefit to overall site 09 program given the considerable expense and effort involved in mobilizing a drilling barge.

The Navy should be commended for enabling rapid changes to be made to the field program so as to incorporate environmental as well as geotechnical data objectives. However, it is clear that the geotechnical objectives continue to be the Navy's top priority. In this context, it is incumbent on the Navy to provide additional clarification concerning the anticipated use of environmental data collected during the geotechnical program. Without this overarching context, it is not possible for the EPA to fully assess the adequacy of the current effort towards future environmental objectives such as developing an LTMP. It should be stated up-front that EPA fully expects a future focussed environmental program to support development of an LTMP which the Navy has previously committed to do during the design phase. In this context, any program which did not seize the current field program as a vehicle to gather environmental data would have missed an important opportunity to streamline future environmental sampling needed to support the LTMP. On the other hand, it should be obvious to all parties that the environmental objectives and methods currently being applied have been heavily limited due to the overriding programmatic and schedule considerations driven by the geotechnical objectives.

For example, the drive-point ground water sampling methodology in use suffers from purge-time limitations which may result in unacceptable data compromises such as insufficient sample volume. For that matter, the very nature of the apparatus, i.e., drive point rather than properly constructed monitoring well, led to an early field consensus between EPA, RIDEM and Navy representatives which concluded that the data is of a "screening" level of quality. As such, the data will be extremely useful in assisting with future environmental analysis necessary to produce an effective LTMP. However, beyond this, it is not possible for EPA to fully assess the adequacy of these data relative to additional Remedial Design data objectives (i.e., LTMP development) until the Navy's position on these future objectives is clarified.

Moreover, at this time, in the absence of the Navy's anticipated strategy for generating the data necessary to develop the LTMP, it is equally difficult for the EPA to engage the Navy in a

productive discussion concerning the most advantageous revisions to work in progress. For example, during the conference call of October 15, 1997, Navy representatives challenged EPA's request to collect supplemental VOC data from deeper units such as the till. Various points were made on both sides regarding the pros and cons of this request. The discussion became quickly unproductive as it became apparent that; 1) EPA request for the VOC data is driven at least in part by what is feasible given the limitations of the current sampling program, 2) the Navy's objections are not supported by an alternative proposal.

The composite sketch which emerges from all of this information leads EPA to the basic conclusions that; 1) The Navy needs to clarify the future direction and data objectives of any environmental work, including that intended to support development of an LTMP ; 2) As per the FFA, a work-plan which outlines the specific environmental objectives and corresponding methodologies is required for regulatory review, comment and approval prior to the initiation of additional environmental activities, such as those planned to support LTMP development during the design phase. In the absence of this information, EPAs comments, which are offered below, should be considered preliminary.

Specific Comments:

2. Attachment 3, page 2, paragraph 3; EPA has profound doubts that the program changes, as described in the added text, will result in all of the needed environmental data. In any case, this can not be fully assessed at this time. Please see general comment 1, above.

3. Attachment 3, page 3, paragraph 4-6, and Table 1; Please clarify and provide rational for the number of Shelby tubes to be collected and their proposed locations. Table 1 suggests that tubes are to be collected only at locations SB-2, 6, and -13.

4. Attachment 3, page 6; The protocol for headspace analysis do not specify any temperature guidelines. This may produce questionable results, particularly during cool temperatures. EPA field visits have not observed any attempts to regulate headspace sample temperatures.

5. Attachment 3, page 6, last paragraph; The rationale for the proposed till sampling locations bears some clarification. First, SB09-13 and SB09-14 also appear to be downgradient of MW-21D. Why is SB09-01 proposed for till sampling ? Also, SB09-03 is more directly downgradient to MW09-09D than SB09-04.

6. Attachment 3, page 7, paragraph 1; EPA suggests that additional soil jars be collected for potential VOC analysis at each depth interval immediately upon opening the spoon. The decision to submit a particular sample for analysis will be made after all headpspace results are available.

Additional sample volume for other COCs should be retained for potential submission for analysis. Available sample volume will dictate the available options. EPA suggests that the following analyses should be considered for soil in the following order of priority: 1) VOCs, 2) metals/inorganics, 3) Pesticides/PCBs/PAHs. This should minimize the need to drill additional boreholes.

7. Attachment 3, page 7, last paragraph, item 2.; "Land surface" does not appear to be the appropriate reference point for the harbor borings ? MSL ? Depth below mudline ?

8. Attachment 3, page 9, paragraph 1; In the event that boulders are penetrated, reasonable attempts to drive the 4 inch casing should be made. The potential use of smaller diameter casing to facilitate deeper till samples is not necessarily "inappropriate". The technical objectives should drive the investigation, in consideration of particular constraints, such as schedule, which may be relevant. If the Navy objects to telescoping smaller diameter casing on the basis of schedule or budget limitations, then it should be stated as such.

9. Attachment 4, page 1, paragraph 1; For Clarity, please list the "7 borings" and the "4 site 09 perimeter monitoring wells."

10. Attachment 4, page 1, paragraph 1& 2; The Navy should consider discontinuing the use of the flow-through cell, particularly in instances where excessive turbidity is observed. In such cases, the flow-through cell may have a tendency to accumulate sediment which may produce misleading results.

11. Attachment 4, 3rd bullet; Describe the filter type and mesh size.

12. Attachment 4, page 2, second to last paragraph; The Navy should strongly consider collection of additional till samples from alternate locations such as SB09- 02, -12, -13, -14, etc., particularly in instances where PID and/or other observations may suggest the presence of contaminants.

13. Attachment 4, page 2, last paragraph; Language should be inserted which describes the sequence of events in the event that the Deitrich sampler is not able to be driven the full three feet.

14. Attachment 4, page 3, 2nd, 3rd and 5th bullets; The Navy should consider discontinuing the use of the flow-through cell, particularly in instances where excessive turbidity is observed. In such cases, the flow-through cell may have a tendency to accumulate sediment which may produce misleading results. For example, specific conductivity, metals, and perhaps other parameters may be artificially affected by entrained sediments. Also, given the fact that the

sampling procedure is often limited by formation yield, perhaps initial pumping rates should be kept below 200 ml/min in order to minimize pumping-induced turbidity which may be produced at higher pumping rates.

15. Attachment 4, page 3, 4th bullet; Certain borings listed as candidates for lengthened pumping times have already been or may soon be completed. Please provide a list to EPA which summarizes at which locations longer pump times were possible and what tests were performed.

16. Attachment 4, page 3, 4th bullet; The statement that, "the site 09 ground-water plume is comprised mostly of VOC," is not supported by current data. The database is incomplete for non-VOC COCs at deeper levels beneath the landfill as well as in the downgradient portions of the system beyond the site shoreline. Although the data from the current program will help revise the understanding of the site 09 plumes, conclusions are as yet premature. It is unclear whether or not the current field effort will be sufficient to fully address this issue. Please see general comment 1, above.

17. Attachment 4, page 3, last bullet; EPA applauds the Navy's attempts to obtain the highest quality field data possible given the difficult field conditions and project constraints. As a point of clarification, however, a prior technical consensus concluded that the ultimate quality of the data falls within the "screening" data quality level. Nonetheless, the data will be highly useful for future activities such as assisting to design a field program leading towards development of an LTMP.

18. Attachment 4, page 4, 1st paragraph; Please refer to previous data. EPA does not believe that the data quality produced by the current field effort (i.e., screening data) will be of sufficient quality to fully support "future partitioning coefficient evaluation," although the data may help focus such an effort. In any case, the Navy needs to forward to EPA their proposed methodology for conducting the aforementioned partitioning coefficient evaluation. Without this information, it is currently impossible for EPA to fully comment on this statement and issue.

19. Attachment 7, page 1, first paragraph; It is EPAs position that limited chemical sampling of dredged sediments should be conducted by the Navy, if for no other reason, to insure that contaminated materials are not being emplaced into the artificial wetlands slated for construction. This could negatively affect the success of the created wetlands, not to mention possibly creating misleading chemical signatures (i.e, attributable to the imported sediment rather than landfill contribution) which may reveal themselves inopportunely during future LTM efforts, possibly triggering a response action which would not otherwise be required.

20. Attachment 7, page 3, last paragraph; Please see previous comment. Could "prosperity" of

the created wetlands be jeopardized by possible contaminants contained in dredged material?

21. Attachment 8, page 1, last paragraph and figure A8-1; EPA does not concur with the short-sighted decision not to conduct environmental sampling in conjunction with soil sampling at the 2 proposed harbor boring locations shown on Figure A8-1. Sampling at the same depths as previous activities (SAIC's Deep Core Sample depths of 3ft below the harbor floor, EA's current 25' feet into the silt and in the till) will provide us comparable data points with which to build a conceptual model across the harbor.

22. Attachment 9, page 1, last paragraph and figure A8-1; EPA does not concur with the short-sighted decision not to conduct environmental sampling in conjunction with soil sampling at the 2 proposed boring locations (MW07-32D/R) shown on Figure A8-1. Sampling at the same depths as previous activities (SAIC Deep Core Sample depths of 3ft below the harbor floor, EA's current 25' feet into the silt and in the till) will provide us comparable data points with which to build a conceptual model across the harbor.

23. Attachment 9, page 4, item 18; Please add fractures, veins, cleavage planes, etc. to the list of bullet points.

24. Attachment 9, page 4, last paragraph; The proposed screened intervals will result in a gap of 15 feet corresponding to the uppermost portion of the bedrock, which will not be screened. This may or may not be a significant issue depending on the geology encountered at MW07-32D/R. Specifically, if a significant thickness of weathered rock is encountered here (e.g., greater than 5 feet in thickness), the Navy should consider installing an additional five foot screen within this unit.

25. Attachment 9, page 5, 3rd paragraph; EPA generally discourages the use of drilling mud. Please consider alternative drilling methods.

26. Attachment 9, page 6, 3rd paragraph; Please clarify if a 4 inch concrete pad is sufficient to overcome frost-heaving problems.

27. Attachment 9, page 6, 2nd to last paragraph; Screen size and sand filter pack size should be determined based on the grain-size and/or other characteristics of the formation at the screened interval. Please re-phrase the work plan in order to specify how the Navy will determine the appropriate sizing of materials based on the materials encountered. It is understood that the similar geologic materials as encountered at Site 07 are "anticipated", but this may not in fact be the case. Please clarify if grain size analysis was performed during any phase of the RI at NCBC and which sites it was used to determine the screen size and sand filter pack size.

EPA Comments on the Revised and Additional Attachments for Addendum to the Site 03 and 09 Phase III Work Plan, Offshore Geotechnical Sampling and Confirmation Study at Site 09 (NCBC), 13 October 1997, Final, Revision 2.

28. Attachment 9, page 7, item c.; Please indicate the frequency at which water quality parameters will be measured.

29. Attachment 9, page 8, 8th bullet; It may be useful to measure the water level after and during development to provide qualitative information concerning the yield characteristics.

30. Attachment 9, page 9, first paragraph; Please reword to indicate that water is being "displaced" by the solid slug rather than being "removed" from the well.